

turbo - ventilation

"always on the job - never on the payroll"

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western engineering and manufacturing co.
4116 OCEAN PARK AVENUE • VENICE, CALIFORNIA

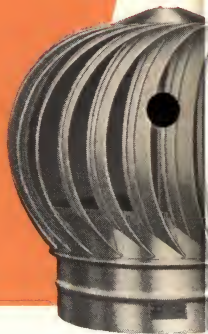
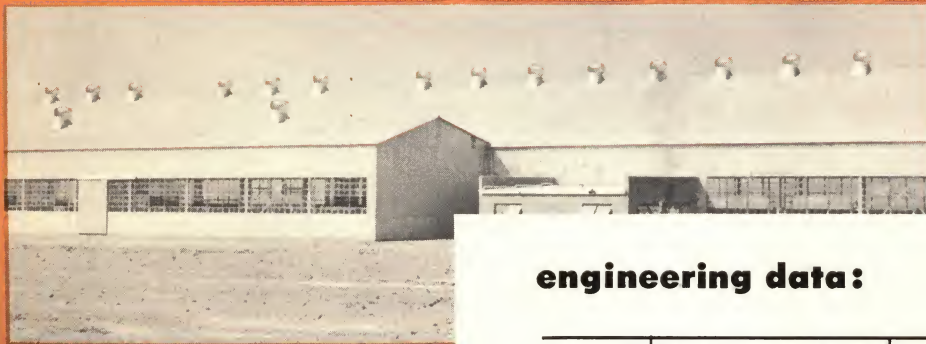
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ESTABLISHED 1927**western engineering and manufacturing co.**

western rotary turbine ventilators

turbo ventilation follows the turbo-supercharger principle.

When the wind stops, the rotary ventilator continues to move of its own momentum. With Western Engineering's superior bearing and superior balance design, maximum exhaust velocity is obtained from changing, shifting winds. In fact, the Western Rotary Turbine is THE MOST ADVANCED form of low velocity exhaust ever developed in modern engineering.

Three aggressive engineering decades of experience stand behind these powerful Rotary Turbine Ventilators.



engineering data:

MODEL AND SIZE	EXHAUST CAPACITY RATINGS *		GAUGE GALV. STEEL	HEIGHT IN INCHES	WIDTH IN INCHES	SHIPPING WEIGHT
	5 MPH.	10 MPH.				
WR— 6	281	549	26	10	9½	6 Lbs.
WR— 8	390	753	26	13	11½	8
WR—10	508	960	26	15	14½	11
WR—12	636	1176	24	17	16½	15
WR—14	771	1404	24	20	19	18
WR—15	839	1516	24	21	20	25
WR—16	911	1634	24	22	22	30
WR—18	1059	1872	24	24	25	38
WR—20	1224	2130	24	26	28	46
WR—24	1565	2650	24	33	35	60
WR—30	2445	4144	24-20	39	42	115
WR—36	3523	5963	22-20	42	50	140
WR—42	4792	8110	22-20	47	55	185
WR—48	6257	10587	22-20	53	62	230

* GALT TEST

10° Temperature Difference

30' Stack Height

high, constant exhaust despite wind fluctuation

1

Extremely high exhaust capacity generated by "backward curved blower wheel" type mechanism. Bulk and weight are far below other types of ventilators yielding comparable capacity.

2

Stormproof Western ventilators can NEVER backdraft. Proved by Guggenheim Aeronautical Laboratory-California Institute of Technology (Galcit). Extra large exhaust area allows immediate unobstructed escape of exhaust air. No static resistance to overcome.

3

Radial thrust upper bearing is seated on steel axis carrying entire load. Torrington NEEDLE radial bearing at lower position counters wind pressure, assures stability. Precision construction brings both bearings into perfect alignment, guaranteeing rigidity and perfect performance.

4

Revolving head removable from bearing assembly by hand...no tools required. No braces or support members to remove.

5

The exclusive Western corrugated vane construction greatly increases rigidity of head assembly...eliminates distortion from handling and shipping.

6

The attractive, modern design of the Western Rotary ADDS beauty to buildings. The Western silhouette is the low, functional type that builders and architects demand.

7

Long-wearing durable galvanized copper-bearing steel is standard material. For special atmospheric conditions, aluminum, copper or stainless steel may be specified.

8

Chrome aluminum paint coating extends ventilator life. Paint particles leaf to form a weather-resistant, non-tarnishing metallic coating on the surface.

lifetime guaranteed bearings!

Western bearings have been especially developed by Western Engineering and Manufacturing Co. to exceed ventilator life itself.

Western Rotary Turbine ventilators are now the only revolving ventilators that bear this remarkable guarantee!

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Science proves superiority of Western Rotary Turbines in controlled wind tunnel test

These four curves from the California Institute of Technology are graphic evidence of certified tests proving the superior performance of the Western Rotary over three common ventilator types. (Note that the Western Rotary Turbine curve increases at an increasing rate, indicating no air flow stoppage or back drafting).

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA
ZONE 4

DANIEL GUGGENHEIM AERONAUTICAL LABORATORY
WESTERN ENGINEERING & MFG. CO., INC.
1726 E. Washington Blvd.
Los Angeles 21, Calif.

May 1, 1951

SUBJECT: Wind Tunnel Tests on the Western Rotary Ventilator

Gentlemen:

In accordance with your request, a series of wind tunnel tests have been conducted on your Western Rotary Ventilator to determine the average velocity of air flow through the ventilator neck for a number of wind velocities.

The tests were conducted in the Merrill Wind Tunnel at the California Institute of Technology, at wind speeds ranging from 5 to 50 M.P.H. A 0.24 scale model of the 24" Western Rotary Ventilator was used. Wind velocities in the tunnel were measured by observing the pressure difference between two sections of the tunnel circuit on a micromanometer. (A standard calibration relates this quantity to the air speed.) Air velocities induced through the neck of the ventilator were measured by observing the pressure difference across a standard pitot static tube on another micromanometer. Velocities measured in this way are accurate to about 5% in the range under consideration.

A static pressure gradient amounting to 2% of the tunnel dynamic pressure existed across the ventilator, and this was considered in the calculations.

Results:

The following velocities, in feet per minute, may be calculated for the full scale ventilator from the data taken in the neck of the model.

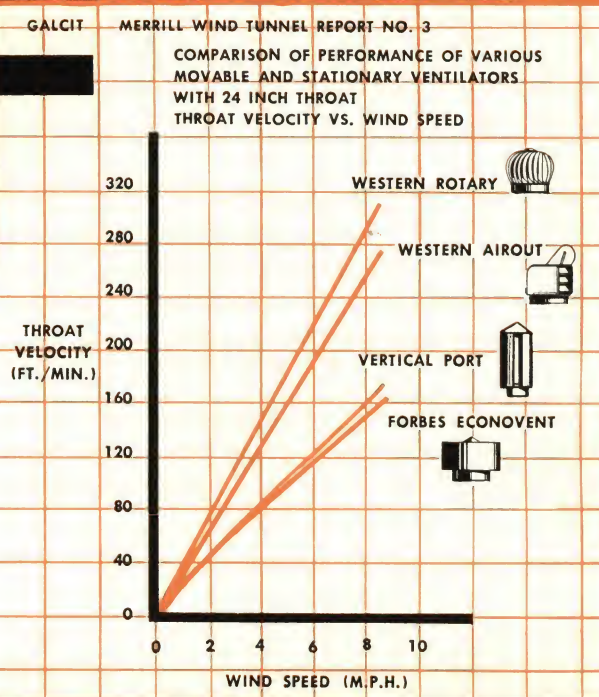
Wind Velocity M.P.H.	Velocity in Neck F.P.M.
2	70
4	140
5	170
6	200
8	270
10	340

Respectfully submitted,

Ted Pounder

Ted Pounder, Supervisor 10 Ft.
Wind Tunnel GALCIT

TP:fo

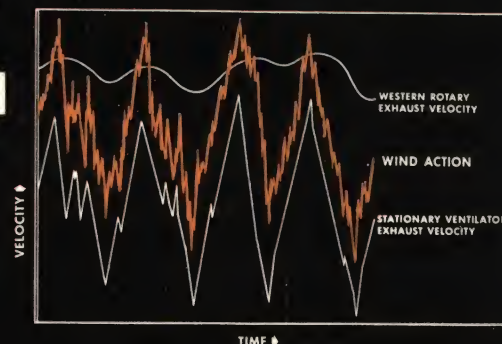


This letter from the California Institute of Technology explains analytical procedure employed in actual wind tunnel tests displaying the high efficiency of the Western Rotary Turbine.

rotary vs. stationary

A Graphic Analysis With Chart of Characteristic Wind Action From the Aeronautical Laboratory, Lindenberg, Germany.

The Western Rotary Ventilator yields a high, constant exhaust compared to the inherently weak and fluctuating performance of stationary types. Except for minor stack action the stationary type is inoperative between wind peaks. But the Western Rotary Turbine continues to exhaust during lulls due to self-momentum... that's why it's ALWAYS ON. THE JOB.



exhaust capacity — Western Rotary Turbines

BASED ON CERTIFIED TESTS

WIND VELOCITY M.P.H.	TEMP. DIFF., °F	HEIGHT ABOVE INTAKE FEET																
			6"	8"	10"	12"	14"	15"	16"	18"	20"	24"	30"	36"	42"	48"		
2	10°	20	122	173	234	302	376	415	457	549	636	844	1342	1901	2588	3378		
		30	129	186	254	330	413	458	506	611	712	954	1514	2150	2928	3817		
		40	135	196	269	352	444	493	546	662	776	1046	1655	2354	3203	4185		
4	20°	20	135	196	269	352	444	493	546	662	776	1046	1655	2354	3203	4185		
		30	144	213	301	390	496	552	613	747	880	1196	1890	2692	3668	4785		
		40	152	227	318	422	539	603	670	819	969	1324	2090	2981	4058	5300		
5	30°	20	144	213	301	390	496	552	613	747	880	1196	1890	2692	3668	4785		
		30	156	233	328	437	560	626	697	853	1010	1394	2185	3115	4243	5535		
		40	166	251	355	476	614	687	767	941	1119	1542	2430	3470	4723	6175		
6	10°	20	218	302	395	494	601	655	712	828	958	1329	1822	2762	3760	4722		
		30	225	315	415	522	638	698	761	890	1034	1389	2094	3010	4100	5361		
		40	231	325	430	544	669	733	801	941	1098	1431	2235	3216	4375	5729		
8	20°	20	231	325	430	544	669	733	801	941	1098	1431	2235	3216	4375	5729		
		30	240	342	462	582	721	792	868	1026	1202	1571	2410	3554	4840	6329		
		40	258	356	479	614	764	843	925	1098	1291	1709	2670	3743	5230	6854		
10	30°	20	240	342	462	582	721	792	868	1026	1202	1571	2410	3554	4840	6329		
		30	252	362	489	629	785	866	952	1132	1332	1769	2765	3977	5415	7079		
		40	262	380	516	668	839	927	1022	1220	1441	1927	3010	4332	5895	7719		
12	10°	20	274	377	488	608	734	796	862	997	1148	1455	2273	3276	4452	5818		
		30	281	390	508	636	771	839	911	1059	1224	1565	2445	3523	4792	6257		
		40	287	400	523	658	802	874	951	1110	1288	1657	2586	3729	5067	6625		
14	20°	20	287	400	523	658	802	874	951	1110	1288	1657	2586	3729	5067	6625		
		30	296	417	555	696	854	933	1018	1195	1392	1807	2821	4067	5532	7225		
		40	304	431	572	728	897	984	1075	1267	1481	1935	3021	4356	5922	7740		
16	30°	20	296	417	555	696	854	933	1018	1195	1392	1807	2821	4067	5532	7225		
		30	308	437	582	743	918	1007	1102	1301	1522	1995	3116	4490	6107	7975		
		40	318	455	609	782	972	1068	1172	1389	1631	2153	3361	4845	6587	8615		
18	10°	20	322	443	570	704	847	918	993	1144	1308	1650	2582	3706	4050	6588		
		30	329	456	590	732	884	961	1042	1206	1384	1760	2754	3953	5390	7027		
		40	335	466	605	754	915	996	1082	1257	1448	1852	2895	4159	5665	7395		
20	20°	20	335	466	605	754	915	996	1082	1257	1448	1852	2895	4159	5665	7395		
		30	344	483	637	792	967	1055	1149	1342	1552	2002	3130	4497	6130	7995		
		40	352	497	654	824	1010	1106	1206	1414	1641	2130	3330	4786	6520	8510		
22	30°	20	344	483	637	792	967	1055	1149	1342	1552	2002	3130	4497	6130	7995		
		30	356	503	664	839	1031	1129	1233	1448	1682	2190	3425	4920	6705	8745		
		40	376	521	691	878	1085	1190	1303	1536	1791	2348	3670	5275	7185	9385		
24	10°	20	434	590	753	924	1105	1193	1286	1472	1676	2091	3271	4702	6405	8353		
		30	441	603	773	952	1142	1236	1335	1534	1752	2201	3443	4949	6745	8792		
		40	447	613	788	974	1173	1271	1375	1585	1816	2293	3584	5155	7020	8760		
26	20°	20	447	613	788	974	1173	1271	1375	1585	1816	2293	3584	5155	7020	8760		
		30	456	630	820	1012	1225	1330	1442	1670	1920	2443	3819	5493	7485	9760		
		40	464	644	837	1044	1268	1381	1499	1742	2009	2571	4019	5782	7875	10275		
28	30°	20	456	630	820	1012	1225	1330	1442	1670	1920	2443	3819	5493	7485	9760		
		30	468	650	847	1059	1289	1404	1526	1776	2050	2631	4114	5916	8060	10510		
		40	478	668	874	1098	1343	1465	1596	1864	2159	2789	4359	6271	8540	11150		
30	10°	20	542	740	940	1148	1367	1473	1585	1810	2054	2540	3972	5716	7770	10148		
		30	549	753	960	1176	1404	1516	1634	1872	2130	2650	4144	5963	8110	10587		
		40	555	763	975	1198	1435	1551	1674	1923	2194	2742	4285	6169	8385	10955		
32	20°	20	555	763	975	1198	1435	1551	1674	1923	2194	2742	4285	6169	8385	10955		
		30	564	780	1007	1236	1487	1610	1741	2008	2298	2892	4520	6507	8850	11555		
		40	572	794	1024	1268	1530	1661	1798	2080	2387	3020	4720	6796	9240	12070		
34	30°	20	564	780	1007	1236	1487	1610	1741	2008	2298	2892	4520	6507	8850	11555		
		30	576	800	1034	1283	1551	1684	1825	2114	2428	3080	4815	6930	9425	12305		
		40	586	818	1061	1322	1605	1745	1895	2202	2537	3238	5060	7285	9905	12945		

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ESTABLISHED 1921

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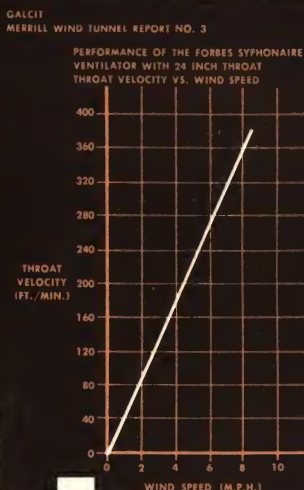
forbes syphonaire

**unexcelled in performance,
design, durability, appearance**

A Good Stationary Ventilator Keeps the Wind OUT. Certain jobs specify stationary type ventilators. On these government-type jobs Western's Forbes Syphonaire gives maximum service in the field.

check these points:

- Certified Capacity Ratings.
- Approved for all government projects.
- Keeps air out. The only type of stationary ventilator construction that positively prevents outside air from entering the exhaust head (and thus momentarily decreasing capacity).
- Low design resists high wind velocity, no guy wires needed.
- Rugged construction for lifetime use, rain-proof, storm-proof.
- Attractive, functional appearance.



engineering data:

MODEL AND SIZE	CERTIFIED EXHAUST CAPACITY * 5 MPH CFM	10 MPH	GAUGE GALV. STEEL	HEIGHT IN INS.	WIDTH IN INS.	SHIP. WT.
						Lbs.
FS- 6	79	126	26	9	11	7
FS- 8	140	224	26	12	15	11
FS-10	219	349	26	14½	19	17
FS-12	315	503	26	18½	23	26
FS-14	429	685	24	21½	26	39
FS-15	493	786	24	21½	28	50
FS-16	561	895	24	25	30	60
FS-18	708	1130	24	26½	33½	70
FS-20	875	1396	24	27½	38	90
FS-24	1259	2010	24-22	31	44	108
FS-30	1969	3144	24-22	39	54	170
FS-36	2834	4526	24-20	39	60	220
FS-42	3860	6160	22-20	39	70	350
FS-48	5040	8042	22-20	47	88	400

* GALCIT TEST 10° Temperature Difference 30' Stack Height

This California Institute of Technology chart proves **no stoppage** of air flow or back-drafting as the curve increases at an increasing rate.

U. S. Navy Warehouse, Eleventh Naval District.



certified capacity ratings—Forbes Syphonair Ventilators

WIND VELOCITY M.P.H.		TEMP. DIFF., °F	HEIGHT ABOVE INTAKE FEET	6"	8"	10"	12"	14"	15"	16"	18"	20"	24"	30"	36"	42"	48"
				6"	8"	10"	12"	14"	15"	16"	18"	20"	24"	30"	36"	42"	48"
2	10°	20	46	82	128	185	253	290	330	417	515	741	1159	1668	2268	2965	
		30	53	95	148	213	290	333	379	479	591	851	1331	1915	2608	3404	
		40	59	105	163	235	321	368	419	530	655	943	1472	2121	2883	3772	
4	20°	20	59	105	163	235	321	368	419	530	655	943	1472	2121	2883	3772	
		30	68	122	195	273	373	427	486	615	759	1093	1707	2459	3348	4372	
		40	76	136	212	305	416	478	543	687	848	1221	1907	2748	3738	4887	
5	30°	20	68	122	195	273	373	427	486	615	759	1093	1707	2459	3348	4372	
		30	80	142	222	320	437	501	570	721	889	1281	2002	2882	3923	5122	
		40	90	160	249	359	491	562	640	809	998	1439	2247	3237	4403	5762	
6	10°	20	63	112	175	253	345	395	450	568	702	1012	1582	2274	3095	4048	
		30	70	125	195	281	382	438	499	630	778	1122	1754	2521	3435	4487	
		40	76	135	210	303	413	473	539	681	842	1214	1895	2727	3710	4855	
8	20°	20	76	135	210	303	413	473	539	681	842	1214	1895	2727	3710	4855	
		30	85	152	242	341	465	532	606	766	946	1364	2130	3065	4175	5455	
		40	93	166	259	373	508	583	663	838	1035	1492	2330	3354	4565	5970	
10	30°	20	85	152	242	341	465	532	606	766	946	1364	2130	3065	4175	5455	
		30	97	172	269	388	529	606	690	872	1076	1552	2425	3488	4750	6205	
		40	107	190	296	427	583	667	760	960	1185	1710	2670	3843	5230	6845	
12	10°	20	72	127	199	287	392	450	512	646	799	1149	1797	2587	3520	4601	
		30	79	140	219	315	429	493	561	708	875	1259	1969	2834	3860	5040	
		40	85	150	234	337	460	528	601	759	939	1351	2110	3040	4135	5408	
14	20°	20	85	150	234	337	460	528	601	759	939	1351	2110	3040	4135	5408	
		30	94	167	266	375	512	587	668	844	1043	1501	2345	3378	4600	6008	
		40	102	181	283	407	555	638	725	916	1132	1629	2545	3667	4990	6523	
16	30°	20	94	167	266	375	512	587	668	844	1043	1501	2345	3378	4600	6008	
		30	106	187	293	422	576	661	752	950	1173	1689	2640	3801	5175	6758	
		40	116	205	320	461	630	722	822	1038	1282	1847	2885	4156	5655	7398	
18	10°	20	81	143	224	323	440	504	574	726	896	1290	2017	2902	3950	5163	
		30	88	156	244	351	477	547	623	788	972	1400	2189	3149	4290	5602	
		40	94	166	259	373	508	582	663	839	1036	1492	2330	3355	4565	5970	
20	20°	20	94	166	259	373	508	582	663	839	1036	1492	2330	3355	4565	5970	
		30	103	183	291	411	560	641	730	924	1140	1642	2565	3693	5030	6570	
		40	111	197	308	443	603	692	787	996	1229	1770	2765	3982	5420	7085	
24	30°	20	103	183	291	411	560	641	730	924	1140	1642	2565	3693	5030	6570	
		30	115	203	318	458	624	715	814	1030	1270	1830	2860	4116	5605	7320	
		40	125	221	345	497	678	776	884	1118	1379	1988	3105	4471	6085	7960	
28	10°	20	99	176	275	397	542	621	707	894	1104	1590	2484	3576	4865	6363	
		30	106	189	295	425	579	664	756	956	1180	1700	2656	3823	5205	6802	
		40	112	199	310	447	610	699	796	1007	1244	1792	2797	4029	5480	7170	
32	20°	20	112	199	310	447	610	699	796	1007	1244	1792	2797	4029	5480	7170	
		30	121	216	342	485	662	758	863	1092	1348	1942	3032	4367	5945	7770	
		40	129	230	359	517	705	809	920	1164	1437	2070	3232	4656	6335	8285	
36	30°	20	121	216	342	485	662	758	863	1092	1348	1942	3032	4367	5945	7770	
		30	133	236	369	532	726	832	947	1198	1478	2130	3327	4790	6520	8520	
		40	143	254	396	571	780	893	1017	1286	1587	2288	3572	5145	7000	9160	
40	10°	20	119	211	329	475	648	743	846	1068	1320	1900	2972	4279	5820	7603	
		30	126	224	349	503	685	786	895	1130	1396	2010	3144	4526	6160	8042	
		40	132	234	364	525	716	821	935	1181	1460	2102	3285	4732	6435	8410	
44	20°	20	132	234	364	525	716	821	935	1181	1460	2102	3285	4732	6435	8410	
		30	141	251	396	563	768	880	1002	1266	1564	2252	3520	5070	6900	9010	
		40	149	265	413	595	811	931	1059	1338	1653	2380	3720	5359	7290	9525	
48	30°	20	141	251	396	563	768	880	1002	1266	1564	2252	3520	5070	6900	9010	
		30	153	271	423	610	832	954	1086	1372	1694	2440	3815	5493	7475	9760	
		40	163	289	450	649	886	1015	1156	1460	1803	2598	4060	5848	7955	10400	

wemco

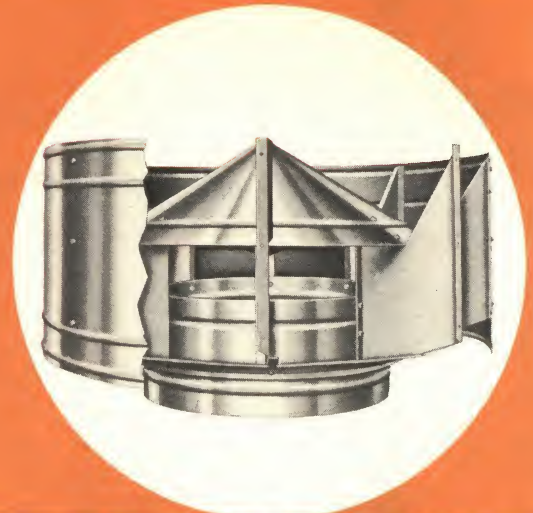
PRODUCTS
ESTABLISHED 1921

western engineering and manufacturing co.

where price comes first, the FORBES

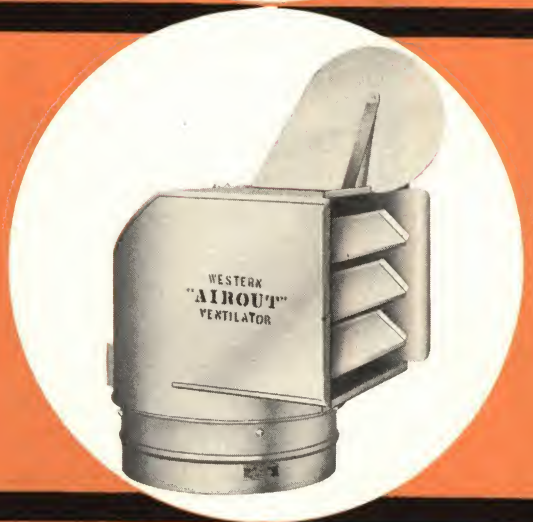
econovent stands out!

- Has rugged design of finest ventilators.
- Exceeds "shop-built" units in performance.
- Engineered construction at a low price.
- Certified Capacity Ratings.



**directional-type ventilator
perfected in WESTERN
airout**

- Will not stagnate or backdraft. This is the only directional ventilator carrying CERTIFIED CAPACITY RATINGS.
- The only directional type ventilator carrying a lifetime bearing guarantee.
- Sensitive to all wind shifts, perfectly balanced.
- Heavy gauge, functional beauty, storm-proof.



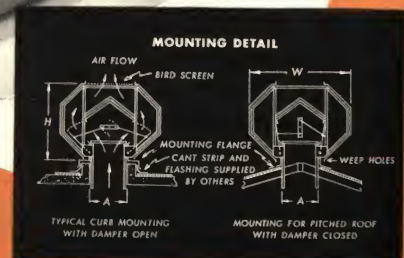
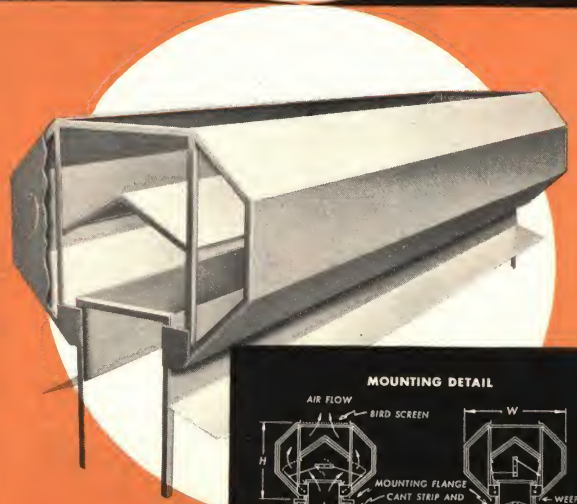
western continuous

ridge ventilator

**overcomes heat and exhausts contaminated
air without power equipment**

There are many important features of this specialized ventilator:

- For high volume movement of heat or contaminated air where power equipment is not practical.
- Flexible... can be fabricated in sections of any desired length.
- Available with dampers to control air flow and with bird and insect screens.
- Storm-proof, excellent drainage, maximum air flow, excellent resistance to high winds.
- Long, low, functional design, continuous gravity-type ventilator of high volume capacity.
- Western's dependable, durable construction.



like all Western products, these ventilators yield maximum job performance

engineering data

MODEL AND SIZE	CERTIFIED EXHAUST CAPACITY* 5 MPH CFM	10 MPH	GAUGE GALV. STEEL	HEIGHT IN IN.	WIDTH IN IN.	SHIP. WT.
FE-6	56	75	26	8	11	Lbs. 5
FE-8	100	134	26	10	15	8
FE-10	154	208	26	11½	19	13
FE-12	223	301	26	14	23	24
FE-14	304	409	24	16	26	35
FE-15	349	470	24	17	28	45
FE-16	398	536	24	17	30	50
FE-18	503	677	24	18½	33½	60
FE-20	619	835	24	19½	38	78
FE-24	892	1202	24-22	23	44	95
FE-30	1394	1881	24-22	25	54	145
FE-36	2010	2708	24-20	27	60	200
FE-42	2733	3685	24-20	30	70	320
FE-48	3565	4810	22-20	30	88	350

* GALCIT TEST 10° Temperature Difference 30' Stack Height

engineering data

MODEL AND SIZE	CERTIFIED EXHAUST CAPACITY* 5 MPH CFM	10 MPH	GAUGE GALV. STEEL	SHIPPING WEIGHT
WA-6	66	100	26	7 Lbs.
WA-8	118	178	26	9
WA-10	184	277	26	15
WA-12	266	399	24	20
WA-14	362	543	24	25
WA-15	415	623	24	29
WA-16	474	711	24	35
WA-18	601	898	24	45
WA-20	737	1108	24	60
WA-24	1062	1595	24	100
WA-30	1659	2493	24-22	150
WA-36	2390	3590	24-20	180
WA-42	3252	4890	24-20	240
WA-48	4242	6380	24-20	300

* GALCIT TEST 10° Temperature Difference 30' Stack Height

engineering data

SIZE A	CAPACITY CFM* Per Lin. Ft.		DIMENSIONS Inches		GALV. STEEL	APPROX. WEIGHT Per Lin. Ft. Incl. Damper	
Inches	5 MPH	10 MPH	H	W	GAUGE		Lbs.
	Wind Vel.	Wind Vel.			Plain	Corr.	
6	194	235	11	14½	24		10
9	291	355	17	22	24		15
12	388	470	22½	29	24		23
16	515	625	30	39	22		31
18	580	705	34	44	22		35
20	650	785	38	48	20		42
24	775	940	45	58	20		55
30	970	1175	56	73	18		75
36	1165	1410	68	88	18	20	87
42	1360	1645	79	102	18	20	110
48	1550	1890	90	117	16	18	125
54	1745	2115	101	131	16	18	145
60	1940	2350	112	146	16	18	200
66	2135	2580	124	160	16	18	213
72	2315	2820	135	175	16	18	225
84	2720	3290	158	204	16	18	270
96	3100	3760	180	233	16	16	360

* 20 F Temp. Diff. 40 Ft. Stack Height.

westernaire

booster fan

increases exhaust
potential
when needed

This is a motor and blade assembly mounted in a round duct, fitting between the roof base and throat of any ventilator. Normal ventilator operation continues when fan is off, but during periods of excessive heat, dust, fumes or smoke, the fan may be called upon to rapidly clear working areas. This unit fits any Western ventilator and may be added after original installation. To add a booster fan is a simple, inexpensive operation. Available as a high-speed, high-velocity industrial unit or slow-speed, quiet-operating, commercial structure.

motor is especially trouble-free

Motors for the Westernaire fans are especially designed and constructed for Western Engineering & Manufacturing Co. Sealed in an aluminum case, weight is reduced. No lubrication is required. These motors obviate the need for belts or sheaves.

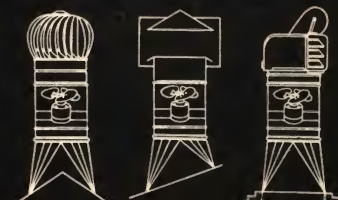
engineering data

MODEL No.	Throat Size	Prop. Size	"O" STATIC			1/8" STATIC			1/4" STATIC			SHIP. PING WGT.	HGT. OVER. ALL
			CFM	HP	RPM	CFM	HP	RPM	CFM	HP	RPM		
BF-8A5R	8"	7"	310	1/150	1500	204	1/150	1500	148	1/150	1500	5 lbs.	10"
BF-8B4B	8"	7"	385	1/70	1500	265	1/70	1500	195	1/70	1500	8	10"
BF-10A5R	10"	9"	435	1/70	1500	337	1/70	1500	223	1/40	1500	7	10"
BF-10B4R	10"	9"	615	1/40	1500	510	1/40	1500	425	1/28	1500	7	10"
BF-12A4R	12"	11"	890	1/25	1500	704	1/25	1500	583	1/20	1500	15	12"
BF-12B4R	12"	11"	1025	1/20	1500	908	1/20	1500	790	1/15	1500	18	12"
BF-14A4R	14"	12"	1020	1/25	1500	860	1/25	1500	706	1/20	1500	17	15"
BF-14B4B	14"	12"	1215	1/20	1500	1105	1/20	1500	900	1/15	1500	20	15"
BF-15A4B	15"	14"	1180	1/25	1500	1030	1/25	1500	740	1/20	1000	19	15"
BF-15B4B	15"	14"	1410	1/20	1500	1123	1/20	1500	925	1/15	1500	22	15"
BF-15A4B	16"	14"	1360	1/20	1000	1210	1/20	1000	900	1/15	1000	31	15"
BF-16B4B	16"	14"	1700	1/10	1500	1610	1/10	1500	1235	1/10	1500	35	15"
BF-18A4B	18"	16"	1710	1/15	1000	1590	1/15	1000	1380	1/12	1000	42	18"
BF-18B4B	18"	16"	2320	1/8	1140	2100	1/8	1140	1850	1/6	1140	45	18"
BF-20A4B	20"	18"	2340	1/8	1140	2080	1/8	1140	1780	1/6	1140	49	18"
BF-20B4B	20"	18"	2940	1/6	1140	2690	1/6	1140	2385	1/4	1140	56	18"
BF-24A4B	24"	20"	2800	1/8	1140	2540	1/8	1140	2220	1/6	1140	60	24"
BF-24B4B	24"	20"	3930	1/4	1140	3690	1/4	1140	3500	1/3	1140	70	24"
BF-30A4E	30"	28"	5480	1/4	860	4920	1/4	860	3500	1/4	600	100	24"
BF-30B4E	30"	28"	7030	1/2	860	6720	1/2	860	6280	1/2	860	118	24"
BF-36A4E	36"	30"	6440	1/4	600	5580	1/4	600	4430	1/3	600	130	24"
BF-36B4E	36"	30"	8850	3/4	860	8400	3/4	860	7900	3/4	860	145	24"
BF-42A4M	42"	36"	10600	1/2	600	8050	1/2	600	7200	3/4	600	180	30"
BF-42B4M	42"	36"	14900	1	860	12930	1	860	8680	1½	860	205	30"
BF-48A4M	48"	42"	16800	1	600	14100	1	600	9200	1	600	250	30"
BF-48B6L	48"	42"	19750	2	860	17100	2	860	14300	2	860	280	30"

NOTE: If static pressure is ¼" or greater, specify such when ordering.
For service under conditions involving excessive heat, dust, grease, corrosive or explosive vapors, or higher static resistance please be sure to consult our engineering department.

Fan Capacities Based on Published NAFM Ratings.

at lowest cost...always!

booster
fan uses



western engine



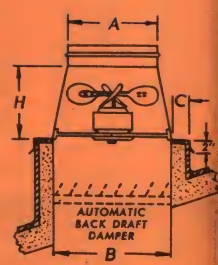
westernaire

curb mounted fan

exhausts high volume at low cost

The Westernaire Curb Mounted fan does a three-way job. It increases exhaust capacity, provides lower overall installation height, and reduces ventilator throat size for a given air requirement. It consists of a square-to-round base with a sturdily-mounted motor-blade assembly, and increases exhaust through the use of a propeller having the same diameter as the throat section. Operating with any Western ventilator it does a thorough job of ventilating. The ventilator provides continuous 24-hour exhaust. During periods of excessive air contamination, the fan may be operated to relieve the condition.

- May be used with ANY ventilator of same throat size.
- High speed . . . high velocity for industrial use or slow speed . . . quiet operation for commercial use.
- Best results when used with Western Rotary Ventilator due to negligible static resistance.
- Motor is same, sealed-in, easy-to-operate unit as used in booster fan. (See page 9.)
- Low installation cost.



engineering data

MODEL No.	PROP. SIZE	"O" STATIC			1/8" STATIC			1/4" STATIC			BASE DIMENSIONS			
		CFM	HP.	RPM.	CFM	HP.	RPM.	CFM	HP.	RPM.	A	B	C	H
CM-8A14B	8"	260	1/150	1500	150	1/150	1500	110	1/70	1500	8"	12 x 12	2"	8"
CM-10A34B	10"	640	1/40	1500	545	1/40	1500	365	1/25	1500	10"	14 x 14	2"	8"
CM-10B44B	10"	770	1/25	1500	670	1/25	1500	460	1/20	1500	10"	14 x 14	2"	8"
*CM-10C44B	10"	890	1/20	1725	805	1/20	1725	635	1/12	1725	10"	14 x 14	2"	9"
CM-12A24B	12"	905	1/25	1500	815	1/25	1500	595	1/20	1500	12"	16 x 16	2"	10"
CM-12B34B	12"	1110	1/20	1500	1000	1/20	1500	770	1/15	1500	12"	16 x 16	2"	10"
*CM-12C44B	12"	1515	1/8	1725	1395	1/8	1725	1290	1/8	1725	12"	16 x 16	2"	12"
CM-14A54B	14"	1320	1/15	1000	1180	1/15	1000	870	1/15	1000	14"	18 x 18	2"	12"
CM-14B34B	14"	1410	1/10	1500	1295	1/10	1500	1165	1/10	1500	14"	18 x 18	2"	12"
*CM-14C34B	14"	1625	1/8	1725	1520	1/8	1725	1420	1/8	1725	14"	18 x 18	2"	14"
CM-16A54B	16"	1700	1/15	1000	1550	1/15	1000	1150	1/15	1000	16"	20 x 20	4"	12"
CM-16B54B	16"	1950	1/8	1140	1810	1/8	1140	1570	1/8	1140	16"	20 x 20	4"	12"
*CM-16C64B	16"	2320	1/6	1140	2100	1/6	1140	1850	1/6	1140	16"	20 x 20	4"	14"
CM-18A44B	18"	2660	1/8	1140	2450	1/8	1140	2150	1/6	1140	18"	22 x 22	4"	16"
CM-18B54B	18"	2940	1/6	1140	2690	1/6	1140	2385	1/4	1140	18"	22 x 22	4"	18"
*CM-18C64B	18"	3430	1/4	1140	3150	1/4	1140	2820	1/3	1140	18"	22 x 22	4"	18"
CM-20A34B	20"	2800	1/6	1140	2540	1/6	1140	2220	1/6	1140	20"	24 x 24	4"	16"
CM-20B44B	20"	3330	1/4	1140	3110	1/4	1140	2860	1/4	1140	20"	24 x 24	4"	18"
*CM-20C54B	20"	3930	1/3	1140	3690	1/3	1140	3500	1/3	1140	20"	24 x 24	4"	18"
CM-24A24E	24"	4460	1/4	860	4030	1/4	860	3380	1/3	860	24"	30 x 30	4"	16"
CM-24B34E	24"	4900	1/3	860	4545	1/3	860	4200	1/2	860	24"	30 x 30	4"	16"
CM-24C24E	24"	5985	3/4	1140	5660	3/4	1140	5310	3/4	1140	24"	30 x 30	4"	16"
*CM-24D34E	24"	6610	1	1140	6330	1	1140	6050	1	1140	24"	30 x 30	4"	20"
CM-30A34E	30"	6440	1/4	600	5880	1/4	600	4430	1/3	600	30"	36 x 36	4"	16"
CM-30B24E	30"	7970	1/2	860	7560	1/2	860	7110	1/2	860	30"	36 x 36	4"	16"
*CM-30C24E	30"	10700	1 1/2	1140	10400	1 1/2	1140	10070	1 1/2	1140	30"	36 x 36	4"	22"
**CM-30D41K	30"	13700	2	1725	12600	2	1725	11250	2	1725	30"	36 x 36	4"	22"
CM-36A42M	36"	10600	1/2	600	8050	1/2	600	5200	1/2	600	36"	42 x 42	4"	16"
CM-36B42M	36"	14900	1	860	12930	1	860	8680	1	860	36"	42 x 42	4"	22"
*CM-36C61L	36"	16800	2	1140	15120	2	1140	13350	2	1140	36"	42 x 42	4"	22"
**CM-36D42M	36"	20150	3	1140	19020	3	1140	17200	3	1140	36"	42 x 42	4"	22"
CM-42A42M	42"	16700	1	600	14100	1	600	9600	1	600	42"	48 x 48	4"	22"
*CM-42B41K	42"	18250	1 1/2	860	14760	1 1/2	860	11750	1 1/2	860	42"	48 x 48	4"	22"
**CM-42C41K	42"	24700	3	1140	22300	3	1140	19650	3	1140	42"	48 x 48	4"	22"
*CM-42D61L	42"	26700	5	1140	24800	5	1140	22900	5	1140	42"	48 x 48	4"	22"
CM-48A61L	48"	19900	1	600	15230	1	600	10900	1	600	48"	54 x 54	4"	22"
CM-48B42M	48"	24000	1 1/2	860	19500	1 1/2	860	12440	1 1/2	860	48"	54 x 54	4"	22"
*CM-48C41K	48"	27200	3	860	23200	3	860	19400	3	860	48"	54 x 54	4"	22"
**CM-48D42M	48"	35400	5	860	33400	5	860	29950	5	860	48"	54 x 54	4"	22"

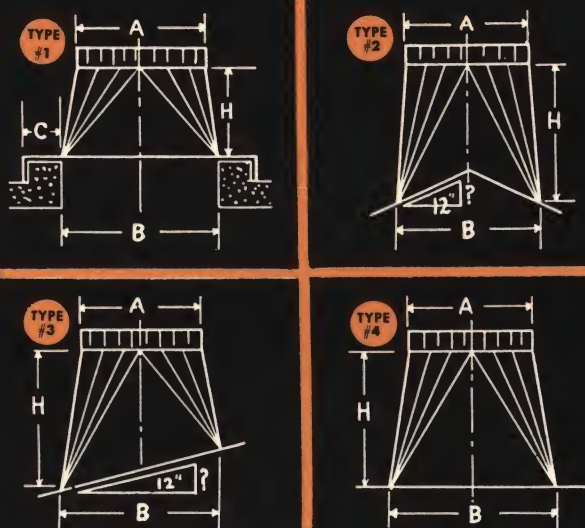
NOTE: If static pressure is 1/4" or greater, specify such when ordering.

* To be used only where noise is not a factor.
** High noise level—for industrial usage only.

Specifications subject to change without notice.
For applications involving excessive heat, dust, or explosive vapors consult our engineering department.

Fan Capacities Based on Published NAFM Ratings.

how to order bases for all Western Ventilators



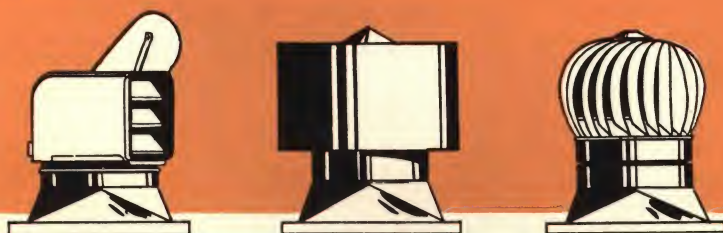
IMPORTANT — Be Sure to Furnish Roof Pitch

ventilator base specifications

A	B	C	H	Gauge	A	B	C	H	Gauge
6"	10" x 10"	2"	6"	26	18"	22" x 22"	4"	16"	24
8"	12" x 12"	2"	8"	26	20"	24" x 24"	4"	16"	24
10"	14" x 14"	2"	8"	26	24"	30" x 30"	4"	16"	22
12"	16" x 16"	2"	10"	24	30"	36" x 36"	4"	16"	22
14"	18" x 18"	2"	12"	24	36"	42" x 42"	4"	16"	22
15"	18" x 18"	4"	12"	24	42"	48" x 48"	4"	22"	20
16"	20" x 20"	4"	12"	24	48"	54" x 54"	4"	22"	20

damper installations

When specified, dampers may be mounted below the motor and propeller assembly. These are aluminum louvred shutters set in the square portion of the base. The standard damper usually supplied is automatic, operated by air pressure generated by the curb mounted fan. Manually operated dampers can also be supplied.



how to specify size and number of ventilators

1. Figure cubic feet in space to be ventilated.
2. Determine rate of air change. (See schedule below.)
3. Divide cubic feet of air space by number of minutes required for air change (see below). Result is cubic feet of air to be exhausted per minute.
4. Recommended ventilator spacing is 20 ft. or in industrial buildings one or more ventilators per bay, depending on building width.
5. Divide result of No. 3 by number of ventilators you propose to use. Then turn to capacity data to determine size ventilator to specify.

recommended air changes in minutes for various types of buildings

	Air Changes Every 3-8 Minutes		Air Changes Every 5 Minutes
Auditoriums	" 10 "	Hotel Dining Rooms	" 2 "
Churches	" 5 "	Laundries	" 5 "
Engine Rooms	" 5 "	Machine Shops	" 5 "
Electric Substations	" 5 "	Paper Mills	" 2 "
Electric Motor Rooms	" 3 "	Pump Rooms	" 1 "
Foundries	" 2 "	Paint Shops	" 10 "
Factories (Open)	" 10 "	Railroad Shops	" 5 "
Factories (Closed)	" 5 "	Round Houses	" 5 "
General Offices	" 10 "	Transformer Rooms	" 5 "
Garages	" 5 "	Woodworking Shops	" 5 "

dampers

For exhaust volume control and fire safety. Provided in disc or butterfly types. Disc type tilts on axis with chain and counterbalance. Butterfly type consists of two hinged halves both of which open upwards. Where required, a fusible link in operating chain is provided. In case of fire, the melting link automatically closes damper. Six feet of chain is furnished with each unit. Additional chain available. Disc or butterfly dampers are not recommended for use in conjunction with fan assembly. In such cases, where damper control is desired, a louvre-type shutter should be mounted below motor and blade.

screens

Bird and insect screens are obtainable for stationary ventilators. Screens may be ordered for all ventilator sizes and may be supplied as permanent fixtures or removable for cleaning.

western ventilators

rotary

stationary

fans

bases

screens — dampers



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